Applicant : Ylian Saint-Hilaire et al.
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Attorney's Docket No.: 10559-430001 / P10444

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently amended) A method comprising:

establishing a̲n̲ ̲i̲n̲t̲e̲r̲r̲u̲p̲t̲i̲o̲n̲-̲f̲r̲e̲e̲ communication path between a mobile-device in a first-communication-area and a server through a home-agent,̲ ̲t̲h̲e̲ ̲m̲o̲b̲i̲l̲e̲-̲d̲e̲v̲i̲c̲e̲ ̲i̲n̲i̲t̲i̲a̲l̲l̲y̲ ̲b̲e̲i̲n̲g̲ ̲a̲s̲s̲i̲g̲n̲e̲d̲ ̲a̲ ̲s̲e̲t̲ ̲o̲f̲ ̲a̲d̲d̲r̲e̲s̲s̲e̲s̲ ̲w̲h̲e̲n̲ ̲r̲e̲g̲i̲s̲t̲e̲r̲e̲d̲ ̲w̲i̲t̲h̲ ̲t̲h̲e̲ ̲h̲o̲m̲e̲-̲a̲g̲e̲n̲t̲,̲ ̲t̲h̲e̲ ̲h̲o̲m̲e̲-̲a̲g̲e̲n̲t̲ ̲u̲s̲i̲n̲g̲ ̲t̲h̲e̲ ̲a̲s̲s̲i̲g̲n̲e̲d̲ ̲a̲d̲d̲r̲e̲s̲s̲e̲s̲ ̲t̲o̲ ̲t̲r̲a̲c̲k̲ ̲t̲h̲e̲ ̲m̲o̲b̲i̲l̲e̲-̲d̲e̲v̲i̲c̲e̲; a̲n̲d̲

maintaining the i̲n̲t̲e̲r̲r̲u̲p̲t̲i̲o̲n̲-̲f̲r̲e̲e̲ communication path through the home-agent when the mobile-device moves to a second-communication-area,̲ ̲t̲h̲e̲ ̲m̲a̲i̲n̲t̲a̲i̲n̲i̲n̲g̲ ̲c̲o̲m̲p̲r̲i̲s̲i̲n̲g̲ ̲t̲h̲e̲ ̲m̲o̲b̲i̲l̲e̲-̲d̲e̲v̲i̲c̲e̲ ̲r̲e̲q̲u̲e̲s̲t̲i̲n̲g̲ ̲a̲ ̲n̲e̲w̲ ̲a̲d̲d̲r̲e̲s̲s̲ ̲f̲r̲o̲m̲ ̲a̲ ̲s̲e̲r̲v̲e̲r̲ ̲a̲n̲d̲ ̲c̲o̲m̲m̲u̲n̲i̲c̲a̲t̲i̲n̲g̲ ̲t̲h̲e̲ ̲n̲e̲w̲ ̲a̲d̲d̲r̲e̲s̲s̲ ̲t̲o̲ ̲t̲h̲e̲ ̲h̲o̲m̲e̲-̲a̲g̲e̲n̲t̲.̲ ;̲ ̲a̲n̲d̲

u̲s̲i̲n̲g̲ ̲r̲e̲s̲p̲e̲c̲t̲i̲v̲e̲ ̲p̲r̲o̲g̲r̲a̲m̲ ̲l̲a̲y̲e̲r̲s̲ ̲b̲e̲l̲o̲w̲ ̲t̲r̲a̲n̲s̲m̲i̲s̲s̲i̲o̲n̲-̲c̲o̲n̲t̲r̲o̲l̲ ̲p̲r̲o̲t̲o̲c̲o̲l̲/̲i̲n̲t̲e̲r̲n̲e̲t̲ ̲p̲r̲o̲t̲o̲c̲o̲l̲ ̲(̲T̲C̲P̲/̲I̲P̲)̲ ̲p̲r̲o̲g̲r̲a̲m̲ ̲l̲a̲y̲e̲r̲s̲ ̲i̲n̲ ̲t̲h̲e̲ ̲m̲o̲b̲i̲l̲e̲-̲d̲e̲v̲i̲c̲e̲ ̲a̲n̲d̲ ̲t̲h̲e̲ ̲h̲o̲m̲e̲-̲a̲g̲e̲n̲t̲ ̲t̲o̲ ̲e̲s̲t̲a̲b̲l̲i̲s̲h̲ ̲t̲h̲e̲ ̲c̲o̲m̲m̲u̲n̲i̲c̲a̲t̲i̲o̲n̲ ̲p̲a̲t̲h̲ ̲a̲n̲d̲ ̲m̲a̲i̲n̲t̲a̲i̲n̲ ̲t̲h̲e̲ ̲c̲o̲m̲m̲u̲n̲i̲c̲a̲t̲i̲o̲n̲ ̲p̲a̲t̲h̲.̲

2. (Canceled)

3. (Original) The method of claim 1 including maintaining the communication path to the mobile-device when moving from the first-communication-area associated with a first-subnet to a second-communication-area associated with a second-subnet.

4. (Presently amended) The method of claim 1 e̲s̲t̲a̲b̲l̲i̲s̲h̲i̲n̲g̲ ̲c̲o̲m̲p̲r̲i̲s̲e̲s̲ c̲o̲m̲p̲r̲i̲s̲i̲n̲g̲:

assigning a home-address associated with the home-agent to the mobile-device;

assigning a first-real-address associated with a first-communication-area to the mobile-device; and

detecting the mobile-device's movement into the second-communication-area.

5. (Presently amended) The method of claim 4 <u>further comprising</u> ~~including~~ assigning a second-real-address associated with the second-communication-area to the mobile-device.

6. (Presently amended) The method of claim 5 <u>further comprising</u> ~~including~~ generating the first-real-address and the second-real-addresses from a server using dynamic host configuration protocol (DHCP).

7. (Original) The method of claim 4 including maintaining the communication path when the mobile-device moves from the first-communication-area associated with a first-subnet to the second-communication-area associated with a second-subnet.

8. (Original) The method of claim 4 including detecting movement into the second-communication-area is performed by the mobile-device.

9. (Presently amended) A method comprising:

generating a request from a mobile-device, the request comprising a request-layer including a home-address of the mobile-device and a server-address;

encapsulating the request-layer with a roaming-layer including a real-address of the mobile-device and a home-agent-address;

communicating the encapsulated request-layer to a home-agent based on the home-agent-address; ~~and~~

using a program layer below a transmission control protocol/internet protocol (TCP/IP) program layer in the mobile-device to generate the request, encapsulate the request-layer and communicate the encapsulated request-layer<u>;</u>

<u>removing the roaming-layer from the encapsulated request-layer; and</u>

communicating the request-layer from the home-agent to a server based on the server-address.

10. (Canceled) ~~The method of claim 9 comprising:~~

~~removing the roaming-layer from the encapsulated request-layer; and~~

~~communicating the request-layer from the home-agent to a server based on the server-address.~~

11. (Presently amended) The method of claim <u>9 further</u> ~~10~~ comprising:

generating a response to the request from the home-agent to the server, the response including a response-layer having the server-address and the home-agent-address; and

communicating the response to the home-agent.

12. (Original) The method of claim 11 further comprising:

encapsulating the response with a roaming-layer, including the real-address and the home-address of the mobile-device; and

communicating the encapsulated response to the mobile-device.

13. (Canceled)

14. (Previously presented) The method of claim 9 including using the program layer below a transmission control protocol/internet protocol (TCP/IP) program layer in the home-agent to modify the encapsulated request-layer with the roaming-layer and communicate the request-layer.

15. (Previously presented) A communication system comprising:

home-agent;

a server; and

a mobile-device including a processor configured to:

generate a request from the mobile-device, the request comprising a request-layer including a home-address of the mobile-device and a server-address of the server,

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encapsulate the request-layer with a roaming-layer including a real-address of the mobile-device and a home-agent-address,

communicate the encapsulated request-layer to the home-agent based on the home-agent-address; and

use respective program layers below transmission control protocol/internet protocol (TCP/IP) program layers in the mobile-device and the home-agent to establish a communication path and maintain a communication path between the home-agent and the mobile-device.

16. (Previously presented) The system of claim 15 wherein the home-agent includes a processor configured to remove the roaming-layer from the encapsulated request-layer and communicate the request-layer from the home-agent to the server based on the server-address.

17. (Previously presented) The system of claim 15 wherein the home-agent includes a processor configured to:

encapsulate a response with a roaming-layer, including the real-address and the home-address of the mobile-device and

communicate the encapsulated response to the mobile-device.

18. (Previously presented) A mobile-device comprising:

a network-interface-adapter;

a processor configured to:

generate a request comprising a request-layer including a home-address of the mobile-device and a server-address,

encapsulate the request-layer with a roaming-layer including a real-address of the mobile-device and a home-agent-address,

communicate the encapsulated request-layer through the network-interface-adapter to a home-agent based on the home-agent-address; and

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use respective program layers below transmission control protocol/internet protocol
(TCP/IP) program layers in the mobile-device and the home-agent to establish a communication
path and maintain a communication path between the home-agent and the mobile-device.

19. (Canceled)

20. (Previously presented) A home-agent comprising:

      a network-interface-adapter;

      a processor configured to:

           receive a request-layer encapsulated with a roaming layer, the request-layer
including a server address,

           remove the roaming-layer from the encapsulated request-layer, and

           communicate the request-layer through the network-interface-adapter to a server
based on the server-address, wherein

           the processor uses respective program layers below transmission control
protocol/internet protocol (TCP/IP) program layers.

21. (Original) The home-agent of claim 20, the processor configured to:

      receive a response from the server;

      encapsulate the response with a roaming-layer including a real-address and a home-
address of the mobile-device, and

      communicate the encapsulated response to the mobile-device.

22. (Canceled)

23. (Presently amended) An article comprising a computer-readable medium that stores
computer-executable instructions for causing a computer system to:

      establish an interruption-free communication path between a mobile-device in a first-
communication-area and a server through a home-agent, the mobile-device initially being

assigned a set of addresses when registered with the home-agent, the home-agent using the assigned addresses to track the mobile-device; and

maintain the interruption-free communication path through the home-agent when the mobile-device moves to a second-communication-area, maintaining comprising the mobile-device requesting a new address from a server and communicating the new address to the home-agent. ; and

~~using respective program layers below transmission control protocol/internet protocol (TCP/IP) program layers in the mobile-device and the home-agent to establish the communication path and maintain the communication path.~~

24. (Original) The article of claim 23 including instructions for causing the computer system to assign a second-real-address associated with the second-communication-area to the mobile-device.

25. (Previously presented) An article comprising a computer-readable medium that stores computer-executable instructions for causing a computer system to:

generate a request from a mobile-device, the request comprising a request-layer including a home-address of the mobile-device and a server-address;

encapsulate the request-layer with a roaming-layer including a real-address of the mobile-device and a home-agent-address;

communicate the encapsulated request-layer to a home-agent based on the home-agent-address; and

use respective program layers below transmission control protocol/internet protocol (TCP/IP) program layers in the mobile-device and the home-agent to establish a communication path and maintain a communication path between the home-agent and the mobile-device.

26. (Previously presented) The article of claim 25 including instructions for causing the computer system to:

remove the roaming-layer from the encapsulated request-layer; and

communicate the request-layer from the home-agent to a server based on the server-address.

27. (Previously presented) The article of claim 25 including instructions to:

generate a response to the request from the home-agent to a server, the response including a response-layer containing the server-address and the home-agent-address; and

communicate the response to the home-agent.

28. (Original) The article of claim 25 including instructions to:

encapsulate the response with a roaming-layer including the real-address and the home-address of the mobile-device; and

communicate the encapsulated response to the mobile-device.

29. (Previously presented) The method of claim 1 wherein a protocol other than TCP/IP is also enabled to establish the communication path and maintain the communication path.